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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/404,291

09/23/1999

KENNETH LEE LEVY

LEVY2R

8258

34733

7590

02/23/2004

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EXAMINER

MCARDLE, JOSEPH M

ART UNIT

PAPER NUMBER

2132

DATE MAILED: 02/23/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/404,291

Applicant(s)

LEVY, KENNETH LEE

Examiner

Joseph McArdle

Art Unit

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-7, 14-18 and 30-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-7, 14-18 and 30-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. This action is responsive to the amendment of the application (Paper No. 7) filed on 12/14/2003. Claims 4-7, 14-18 and 30-39 are presented for further examination.

#### ***Specification***

2. The amendment filed 12/14/2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Claim 37 recites placing a redundant instance of the changed auxiliary information in a plurality of frame headers respectively associated with the plurality of frames. Claim 38 recites placing a first portion of the changed auxiliary information in a first frame header and a second portion in a second frame header. Claim 39 recites having the first and second portions of changed auxiliary information comprise overlapping auxiliary information

Applicant is required to cancel the new matter in the reply to this Office Action.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 37-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Pages 18-20 of the specification describe the use of frame headers. However, the applicants description of the frame headers provides no clear indication of how changed auxiliary information is handled and distributed throughout the frame headers as claimed by claims 37-39.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 4, 5, 14, and 30-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Barton (5646997). In regards to claim 4, Barton discloses a design in column 6, lines 53-60, which embeds additional information (auxiliary information) into original data. Barton further discloses in the aforementioned location that the additional information (auxiliary information) may contain meta-data. Barton then goes on to disclose in column 6, lines 2-9 and column 6, lines 56-60, that meta-data is information is information supplied by the user and can include information such as block sequence numbers and the name of the author of the original data. These disclosures by Barton

meet the limitations set forth under claim 4 that call for having a method of embedding auxiliary information that is independent of the original data because the meta-data, which becomes embedded into the original data as disclosed by Barton, is supplied by a user and is therefore independent of the original data. As mentioned above, Barton discloses in column 6, lines 53-60 that meta-data can include information such as block sequence numbers, which are used in order to keep track of where the auxiliary information is embedded. This disclosure meets the limitations set forth under claim 4 that call for changing the auxiliary information based on the original data because the aforementioned block sequence numbers contained within the auxiliary information are changed according to where in the original data the auxiliary information is embedded.

7. In regards to claim 5, Barton discloses in column 7, lines 14-26 that the bit string (meta-data/auxiliary information) is to be encrypted according to any useful encryption technique. This disclosure meets the limitations set forth under claim 5, which calls for encrypting the auxiliary information (bit string/meta-data).

8. In regards to claim 14, Barton discloses in column 7, lines 14-26, a way of embedding a bit string (auxiliary information) into original data in such a way as to make the resulting changes in the original data invisible to a user. This meets the limitations set forth under claim 14, which call for the embedding to be a steganographic embedding process because Barton's design disclosed above provides a means to hide auxiliary information within the original data, which is the main feature involved in steganographic embedding.

9. In regards to claims 30 and 31, Barton describes in column 6, lines 53-60, an additional bit string (auxiliary information) that may contain meta-data that is to be embedded into original data. Barton further discloses in the aforementioned location that meta-data can include information such as block sequence numbers and the name of the author of the original data. These disclosures meet the limitations set forth under claims 30 and 31 that call for having auxiliary information comprised of plural bits (see Barton column 6, lines 53-60, where it specifically mentions the use of an additional bit string) and wherein changing comprises changing at least a plurality of the plural bits (but not adding onto the total number of bits) because Barton's aforementioned block sequence numbers can change based upon where in the original data the bit string (meta-data/auxiliary information) is to be embedded.

10. In regards to claim 32, Barton discloses in column 7, lines 66-67 through column 8, lines 1-7, that embedded information (auxiliary information) is retrieved from the original data by reversing the process that was originally used to embed the data. This disclosure meets the limitations set forth under claim 32 that call for decoding the embedded information because by reversing the embedding procedure the auxiliary information that was embedded into the original data can be retrieved. Barton then goes on to disclose in column 8, lines 15-20 that a digital signature is extracted from the original data and compared with a signature calculated from the supposedly original data. Barton further discloses in column 8, lines 25-28 that if it is determined that the two signatures match then the original data can be restored correctly. This meets the remaining limitations set forth under claim 32 that call for enabling an action when both

the embedded information corresponds to the original data and the auxiliary information permits the enabling because in Barton's disclosure the original data is able to be correctly extracted only if the embedded information correctly corresponds to the original data.

11. In regards to claim 33, Barton discloses in column 1, lines 23-32 that one such media in which information can be embedded into is photographs. Barton further discloses in the aforementioned location once information is embedded/modified in the original photograph it can then be printed. This disclosure meets the limitations set forth under claim 33 that call for embedding information within a photograph and then printing the photograph with the embedded information in it.

12. In regards to claim 34, the aforementioned rejection of claim 4 discloses how the auxiliary information is changed according to data within the original data. Barton further discloses in column 1, lines 23-32 that one such media that can be embedded with information is photographs. These disclosures meets the limitations set forth under claim 34 that call for changing the auxiliary information according to data contained within the photograph.

13. In regards to claim 35 and 36, Barton discloses in column 3, lines 56-59 and in column 3, lines 23-30 that meta-data (auxiliary information) to be embedded can include authentication information such as a name and other identifying information. This disclosure meets the limitations set forth under claims 35 and 36 because Barton's disclosure of meta-data (auxiliary information) can be added/altered by original information in the photograph to contain things such as names and addresses.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton in view of Davis (5970147). In regards to claim 6, Barton's design disclosed above meets all of the aforementioned limitations of claim 5. However, Barton's design makes no mention of storing an encryption key in a database so that both an encoding and decoding device can access it. Davis discloses a design directed towards cryptographic devices. Davis goes on to disclose in column 4, lines 43-54 how encryption keys can be transferred from a cryptographic device to a database. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Davis design features relating to storing encryption keys in a database into Barton's design in order to achieve a design that is capable of storing encryption keys in a database so that they can be accessed by encoding and decoding devices.

16. In regards to claim 7, Barton's design disclosed above meets all of the aforementioned limitations of claim 6. Barton further discloses in column 9, lines 24-36 how MPEG digital movies can be encoded and how they are done so by using a plurality of frames. This disclosure meets the limitations set forth under claim 7 that call for the original data to have a series of segments. However, Barton's design makes no



mention of allowing a decoding device to contain the encryption key used for all the segments. Davis discloses in column 4, lines 43-54 how encryption keys are initially stored in the cryptographic devices (decoding device). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Davis's design feature of allowing a cryptographic devices (decoding device) to store an encryption key into Barton's design in order to achieve a design that is capable of allowing a decoding device to store an encryption key to be used for decoding the plurality of segments.

17. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton in view of the applicant's own admitted prior art. Barton's design disclosed above meets all of the aforementioned limitations set forth under claim 14. However, Barton's design makes no mention of changing the auxiliary information based on unchanged original data bits to be purposely skipped (non-embed bits) during embedding. On page 17, lines 13-29 of the specification, the applicant directly references two previously known methods of steganographic embedding that disclose the exact aforementioned limitations. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute these steganographic embedding methods into Barton's design in order to achieve a design that incorporates the applicant's own admitted prior art (see page 17, lines 13-29 of the applicant's specification).

18. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton in view of Wortly (4422171). Barton's design disclosed above meets all of

the aforementioned limitations set forth under claim 4. Barton further discloses in column 9, lines 24-36 how MPEG digital movies can be encoded with additional information (auxiliary information) and how this is done so by using a plurality of frames. However, Barton's design makes no mention of placing changed auxiliary information in frame/global headers associated with the frames. Wortly discloses a design that is directed towards how data can be packaged and specifically discloses in column 4, lines 24-32 how header fields of data frames can be used to store information such as data block numbers and sequencing numbers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Wortly's design features related to placing relevant information in header fields into Barton's design in order to achieve a design that is capable of allowing changed auxiliary information to be placed into frame/global headers.

**19. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

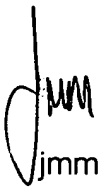
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph McArdle whose telephone number is (703) 305-7515. The examiner can normally be reached on Weekdays from 8:00 am - 5:00pm.

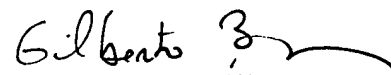
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JMM

Joseph McArdle  
Examiner  
Art Unit 2132



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